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## PROCEEDINGS.

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Six hundred and ninety-second Meeting.

May 30, 1876. — ANNUAL MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary read letters from the following gentlemen: Professor W. D. Whitney, offering the thanks of the American Oriental Society for the use of the hall of the Academy; Dr. Thomas Andrews, expressing his thanks for the gift of the "Works of Rumford;" Messrs. Stewart and Rowland, accepting their election as members of the Academy; and Mr. George S. Hillard resigning his Fellowship.

The Treasurer presented his annual report, which was accepted and ordered to be entered on the records.

The Librarian presented his report, which was accepted.

Professor Cooke presented the report of the Rumford Committee, which was accepted. In accordance with a suggestion contained in this report, it was

*Voted*, To place six hundred dollars (\$600) of the Rumford fund at the disposal of the Rumford Committee to aid Professor H. A. Rowland in a determination of the mechanical equivalent of heat.

The President announced the death of Christian Lassen, Foreign Honorary Member.

On the motion of the Treasurer, it was

*Voted*, To appropriate from the general fund: —

For general expenses . . . . .	\$2,100
For Library expenses . . . . .	700
For Publications . . . . .	1,500

The following gentlemen were elected members of the Academy: —

William Edward Story, of Somerville, to be a Resident Fellow in Class I., Section 1.

Bennett Hubbard Nash, of Boston, to be a Resident Fellow in Class III., Section 2.

Alfred Tennyson, of Freshwater, to be a Foreign Honorary Member in Class III., Section 4, in place of the late Marchese Gino Capponi.

François Auguste Alexis Mignet of Paris, to be a Foreign Honorary Member in Class III., Section 3.

Ernst Curtius, of Berlin, to be a Foreign Honorary Member in Class III., Section 3.

Sir Henry Creswicke Rawlinson, of London, to be a Foreign Honorary Member in Class III., Section 2, in place of the late Christian Lassen.

Arthur Penrhyn Stanley, of London, to be a Foreign Honorary Member in Class III., Section 3.

Eugène Emmanuel Viollet-Le-Duc, of Paris, to be a Foreign Honorary Member in Class III., Section 4, in place of the late Joaquim Jose da Costa de Macedo.

Mark Pattison, of Oxford, to be a Foreign Honorary Member in Class III., Section 3, in place of the late Jean Baptiste Benoist Eyries.

Thomas Hill, of Portland, to be an Associate Fellow in Class I., Section 1.

George Mary Searle, of New York, to be an Associate Fellow in Class I., Section 2.

Henry Larcom Abbot, of New York, to be an Associate Fellow in Class I., Section 4.

Nathaniel Holmes, of St. Louis, to be an Associate Fellow in Class III., Section 1.

Richard Saltonstall Greenough, of Florence, to be an Associate Fellow in Class III., Section 4.

The annual election resulted in the choice of the following officers : —

CHARLES F. ADAMS, *President*.  
 JOSEPH LOVERING, *Vice-President*.  
 JOSIAH P. COOKE, JR., *Corresponding Secretary*.  
 EDWARD C. PICKERING, *Recording Secretary*.  
 EDMUND QUINCY, *Treasurer and Librarian*.

*Council.*

JOHN B. HENCK,	} of Class I.
WOLCOTT GIBBS,	
CHARLES W. ELIOT,	
ALEXANDER AGASSIZ,	} of Class II.
JOHN A. LOWELL,	
BENJ. E. COTTING,	
GEORGE E. ELLIS,	} of Class III.
ANDREW P. PEABODY,	
CHARLES C. PERKINS,	

*Rumford Committee.*

MORRILL WYMAN.	JAMES B. FRANCIS.
WOLCOTT GIBBS.	JOHN M. ORDWAY.
EDWARD C. PICKERING.	STEPHEN P. RUGGLES.
JOHN TROWBRIDGE.	

*Committee on Finance.*

CHARLES FRANCIS ADAMS,	} <i>ex officio</i> .
EDMUND QUINCY,	
THOMAS T. BOUVÉ.	

The following Committees were appointed on the nomination of the President : —

*Committee on Publication.*

ALEXANDER AGASSIZ.	W. R. GOODWIN.
JOHN TROWBRIDGE.	

*Committee on the Library.*

CHARLES DEANE.                      HENRY P. BOWDITCH.  
WILLIAM R. NICHOLS.

*Auditing Committee.*

HENRY G. DENNY.                      ROBERT W. HOOPER.

*Voted*, To adjourn this meeting, at its close, to the second Wednesday in June.

Professor Watson presented a continuation of his paper on "Inland Navigation."

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**Six hundred and ninety-third Meeting.**

June 14, 1876. — ADJOURNED ANNUAL MEETING.

The PRESIDENT in the chair.

The following papers were read: —

On parachlor and paraiodbenzylbromides, by Professor C. L. Jackson.

On derivatives of parabrombenzylbromides, by C. L. Jackson and Woodbury Lowery.

On methyluric acid, by Professor H. B. Hill.

On the salts of methyluric acid, by O. R. Jackson.

The following papers were presented by title: —

On the solubility of sodic and potassic bromides in absolute alcohol, by J. H. Bullard and A. L. Thomsen.

On the atomic weight of antimony, by Professor J. P. Cooke, Jr.

Contribution towards the history of the fluorides of manganese, by W. H. Melville.

Researches on the substituted benzyl compounds, by Professor C. L. Jackson.

On the effect of temperature on the viscosity of air, by S. W. Holman.

On the characters of a new genus of Papaveraceæ, *Canbya*; also, of certain other new Californian species of plants, by Professor Asa Gray.

**Six hundred and ninety-fourth Meeting.**

October 11, 1876. — STATED MEETING.

The PRESIDENT in the chair.

Letters were read from Messrs. Curtius, Le Duc, Mignet, Pattison, Rawlinson, Stanley, Abbot, and Searle, accepting their election as members of the Academy; also from Messrs. Bowen and Cabot resigning their membership.

*Voted*, To place six hundred dollars (\$600) of the income of the Rumford Fund at the disposal of the Rumford Committee to aid Professor Langley in his researches on radiant energy.

Professor A. G. Bell, by invitation presented a paper on telephony.

On the motion of Mr. Emerson it was

*Voted*, To heartily congratulate Professor Bell on his wonderful discovery in telephony.

The following papers were presented:—

On the use of glass circles for meridian instruments, by Mr. W. A. Rogers.

On the suspension of a ball in a jet of air having an inclination of  $45^{\circ}$  by Mr. W. A. Rogers.

On a new edition of Ptolemy's catalogue of stars, by Mr. C. S. Peirce.

Dr. Gray presented, by title, the following paper:—  
Contributions to North American Botany.

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**Six hundred and ninety-fifth Meeting.**

November 10, 1876. — MONTHLY MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary announced the death of Nicholas St. John Green, William A. Stearns, and Edward Wigglesworth, Fellows of the Academy; also of Charles Davies, Associate Fellow, and Christian Gottfried Ehrenberg, Foreign Honorary Member. He also read letters from Monsieur G. A. Hirn acknowledging the receipt of the Works of

Count Rumford, and from Dr. F. Garrigou, requesting the Academy to send him samples of the principal American thermal springs. This last was referred to the Smithsonian Institution.

Professor John Trowbridge, on behalf of Professor J. D. Whitney, presented a paper on the velocity of the shock of the Hell-Gate explosion.

Mr. W. A. Rogers exhibited a series of drawings of the planet Jupiter, by Mr. L. Trouvelot; he also presented, by title, a paper, by Mr. L. Waldo, on the pitch of the screw of the micrometer of the equatorial of the Harvard College observatory.

Mr. S. P. Sharples presented the following papers by title:—

On the aceto-arsenite of copper.

On some further determinations of standard milk.

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**Six hundred and ninety-sixth Meeting.**

December 13, 1876.—MONTHLY MEETING.

The PRESIDENT in the chair.

The President read a letter from Mr. Alfred Tennyson, accepting his election as Foreign Honorary Member; also, a letter from Mr. William Ferrel, resigning his fellowship.

The following papers were presented:—

On the structure of the chrysalis of butterflies, by Mr. S. H. Scudder.

On the two-point and three-point problem in surveying, by Professor E. C. Pickering.

On the water of the ponds of eastern Massachusetts, by Mr. S. P. Sharples.

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**Six hundred and ninety-seventh Meeting.**

January 10, 1877.—STATED MEETING.

The PRESIDENT in the chair.

The following papers were presented:—

On the micrometer level, by Professor E. C. Pickering.

On vortices, by Professor John Trowbridge.

On tri-iodo-resorcin, by A. J. H. Norton, presented by Professor E. N. Horsford.

On the mythology of the North American Indians, by Professor J. W. Powell.

The President announced the death of Professor Alexis Caswell, of Providence.

*Voted*, To adjourn this meeting, at its close, to the second Wednesday in February.

On the suggestion of Professor F. W. Putnam, it was

*Voted*, To refer to the Council the question of depositing a Mexican mask and a plate of Dighton Rock in the Peabody Museum of Archæology.

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Six hundred and ninety-eighth Meeting.

February 14, 1877. — ADJOURNED STATED MEETING.

The PRESIDENT in the chair.

Sir James Paget, of London, was elected a Foreign Honorary Member in Class II., Section 4, in place of the late Gabriel Andral.

On the motion of Professor Lovering, it was

*Voted*, That a committee of three be appointed to consider and report upon the expediency of memorializing Congress to pass a law making it the duty of postmasters to collect the facts in regard to accidents to life or property by lightning which may occur within the area covered by their departments, and communicate the same as may hereafter be designated.

A committee was appointed consisting of Messrs. Lovering, Bigelow, and Pickering.

Dr. Thomas M. Brewer read a paper on parasitic birds.

Professor A. Graham Bell, introduced by the Recording Secretary, presented a description of his further researches in telephony.

Dr. Williams, on the introduction of Dr. B. E. Cotting, read a paper on French verbs.



## Six hundred and ninety-ninth Meeting.

March 14, 1877. — STATED MEETING.

The PRESIDENT in the chair.

The President announced the death of Alexander Braun, Wilhelm Hofmeister, J. C. Poggendorff, and Karl Ernst Von Baer, Foreign Honorary Members; and of C. H. Davis, Charles Wilkes, and F. B. Meek, Associate Fellows.

The following gentlemen were elected members of the Academy:—

Alexander Graham Bell, of Salem, to be a Resident Fellow in Class I., Section 3.

Jeremiah Lewis Diman, of Providence, to be an Associate Fellow in Class III., Section 3.

William Ferrel, of Washington, to be an Associate Fellow in Class I., Section 1.

The Treasurer read a letter from the Hon. E. B. Washburne, giving an account of the repairs which he had caused to be made at the expense of the Academy of the monument of Count Rumford at Paris.

The following papers were presented:—

A mathematical discussion of vortex rings in liquids, by Professor John Trowbridge.

Upon an application of Lane's law of the accumulation of solar heat, by Professor Benjamin Peirce.

On systematic errors in star declinations, by Professor E. C. Pickering.

Antigeny; or, sexual dimorphism in butterflies, by Mr. S. H. Scudder.

On a new form of clock escapement, by Professor C. A. Young.

The following papers were presented by title:—

Theory of the horizontal photoheliograph, including its application to the determination of the solar parallax by means of transits of Venus, by Professor William Harkness.

On a base from the residues of aniline, by Professor C. L. Jackson.

On a method of measuring electro-motive power by B. O. Peirce, Jr.

A note on the conduction of heat in a solid, by B. O. Peirce, Jr.

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Seven hundredth Meeting.

April 11, 1877. — MONTHLY MEETING.

The PRESIDENT in the chair.

The Corresponding Secretary read letters from Messrs. Diman, Ferrel, and Paget, accepting their election into the Academy.

On the motion of the Treasurer it was

*Voted*, That the thanks of the Academy be presented to the Hon. E. B. Washburne and to Mr. Riggs for their services in connection with the repairs of the monument of Count Rumford in Paris.

The following papers were presented: —

On the haloid compounds of antimony, by Professor J. P. Cooke, Jr.

On the temperature of a perfect gas which is in convective equilibrium, by Professor Benjamin Peirce.

The following papers were presented by title: —

On parabrombenzyl compounds, by C. L. Jackson and Woodbury Lowery.

On furfural formed in the dry distillation of wood at low temperatures, with a note on Scanlan's pyroxanthin, by Professor H. B. Hill.

On some new algæ of the United States, by Professor W. G. Farlow.

Mode of germination in the genus *Megarhiza*, by Professor Asa Gray.

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Seven hundred and first Meeting.

May 9th, 1877. — MONTHLY MEETING.

The VICE-PRESIDENT in the chair.

Messrs. Cooke, Eliot, Agassiz, Ellis, and Perkins were appointed a committee on nominations.

The Recording Secretary declined to be regarded as a candidate for re-election.

The following papers were presented : —

On the iodides of antimony, by Professor J. P. Cooke, Jr.

On the chemical relations of pressure, by Professor T. S. Hunt.

On adiabatic surfaces, by Professor John Trowbridge.

On the preparation of nitrogen gas, by Professor Wolcott Gibbs.

On diamido-sulphobenzide-dicarbonic acid, by Arthur Michael and T. H. Norton, presented by E. N. Horsford.

On paraiodbenzyl compounds, by Professor C. L. Jackson and Mr. C. F. Mabery.

On some new algæ new to the United States, by W. G. Farlow.

Descriptions of new species of plants with synopses of certain genera, by Sereno Watson.

The following paper was presented by title : —

Characters of some new, or little known, genera of plants, by Professor Asa Gray.

The Corresponding Secretary presented the following annual Report of the Council : —